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For

RIO ALTO

EXPLORATION LTD.

ANNUAL
REPORT
1977

CORPORATE INFORMATION

DIRECTORS

Ronald J. Allen
Carman W. Byler
H. Graham Gammell
Douglas W. Hilland
Julio Poscente
Robert W. Termuende

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OFFICERS

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John J. Barclay

President
Secretary
Assistant Secretary
Treasurer

HEAD OFFICE

710, 610 - 8th Ave. S.W.,
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SUBSIDIARIES

North American Nuclear Limited
Rio Alto Petroleums Ltd.
Gamma Resources Ltd.
Rio Alto (España) S.A.

BANKS

Canadian Imperial Bank of Commerce
Royal Bank of Canada

TRANSFER AGENT AND REGISTRAR

Canada Trust Company

LEGAL COUNSEL

McLaws & Company

AUDITORS

Collins Barrow

STOCK LISTING

Alberta Stock Exchange

COVER

Drilling Operations at Rio Alto's
silver, zinc, copper, lead prospect,
Rusty Springs, Yukon.
July, 1977

R. W. TERMUENDE

PRESIDENT

RIO ALTO EXPLORATION LTD.

710, 610-8 AVE. S.W., CALGARY, ALBERTA T2P 1G5 403 261-6661



TO THE SHAREHOLDERS

The encouraging results obtained from our Company's exploration program at Rusty Springs in the Ogilvie Mountains area of the Yukon highlighted Rio Alto's 1977 activities. This program, which included over 3,000 feet of diamond drilling, resulted in the discovery of new surface showings of silver, lead, zinc and copper minerals. Assays of drill core confirmed that mineralization extends more than 100 feet below ground level.

Mineral specimens from the Rusty Springs prospect were examined by geologists at the University of Western Ontario to determine the type and origin of the mineralization present and to provide a guide for further exploration. This study concludes that the prospect is a stratabound metal occurrence similar to Mississippi Valley deposits, differing mostly by having a significant silver content.

The 1978 exploration program, which will commence in June, is designed to obtain more information on the known showings, and to evaluate the further potential of our Company's claim area. This program includes systematic drilling on lines across the present showings as well as wildcat drilling in areas of interest that lack outcrop. Two drills and supplies are on the site and are expected to drill a total of more than 8,000 feet at about forty locations.

The cost of the 1978 program will be approximately one half million dollars and is being funded by the private placement of 250,000 treasury shares of Rio Alto Exploration Ltd. at a net price of \$2.00 per share.

Our Company was also active in other areas of Canada and overseas. Exploration, consisting primarily of diamond drilling, was carried out on our uranium claims in the Elliot Lake area of Ontario. Three holes were drilled on one block of our claims, and all encountered economic grades of uranium.

In Spain, Rio Alto (España) S.A. was approved as our Company's wholly owned subsidiary by the Spanish Government. A number of properties have been considered in that country, and one exploration program has been completed.

Two development oil wells were drilled on our Company's acreage in the Kindersley area of Saskatchewan and have been on production since the fall of 1977. Rio Alto also participated in a gas well drilled by our subsidiary, Gamma Resources Ltd., in the Cessford area of Alberta. This well blew wild for over a month and required the drilling of a relief well to bring the original well under control.

Our exploration and development expenditures in 1977 exceeded \$400,000 and most of the funds were provided by the issuance of capital stock by way of a rights offering. We appreciate the support of the shareholders which, together with the dedicated efforts of our associates, have resulted in the significant growth and success of our Company.

Respectfully submitted on behalf of the Board

R. W. Termuende,
President



Drillers ARNOLD KENDRICK and NORMAN JAMES with core from Diamond Drill Hole #2, Rusty Springs, Yukon.



Hydra-Wink Badger diamond core drill in operation, Rusty Springs, Yukon.

EXPLORATION AND DEVELOPMENT

Rusty Springs Prospect — Yukon Territory

Rio Alto has a 100% interest in 380 claims protecting two areas, about 1½ miles apart, which contain silver, lead, zinc and copper mineralization. The claims are located 85 miles northwest of Mile 150 on the Dempster Highway, and are about 175 miles north of Dawson City, Yukon Territory. During the summer of 1977 a program of geochemical and geological prospecting determined a number of zones where soil analyses were extremely high in silver, lead, zinc and copper. In addition, these minerals were discovered in bedrock exposed in a creek. Some of these zones were tested by drilling shallow holes with a Hydra-Wink Badger diamond core drill.

In one particular area, named the Orma show, a zone of mineralization was traced by prospecting and geochemistry for a distance of 2,500 feet over a plan width of 500 to 1,000 feet with the westerly side of the width open. This zone was highly anomalous in silver-lead-copper and silver-bearing galena was panned from some surface soil samples. Eight diamond drill holes were located on this zone of mineralization. Core recovery was only about 25% in metalliferous zones which

were up to 160 feet in hole length. Core and core fragments recovered from Hole No. 8 on the Orma show returned assays of 78 oz/ton silver, 6.7% lead and 3.8% copper from 0 - 27 feet and 113 oz/ton of silver, 13% lead and 2% copper from 62 - 77 feet.

All of our results were submitted to Dr. R. W. Hodder of the Department of Geology at the University of Western Ontario who agreed to have studies conducted to define the geology and genesis of the Rusty Springs prospect. This study was completed by Gary Shoel in the form of a graduating thesis. The thesis concludes that the prospect is a stratabound, carbonate-hosted metal occurrence similar to Mississippi Valley type deposits. It differs mostly by having a significant silver content. The high silver and copper content is partially explained by oxidation and weathering which may have caused secondary enrichment but the source of the silver and copper remains to be determined.

At the end of 1977, it became obvious that additional equipment and supplies would be required for the 1978 field season. Accordingly, Paul S. White of Whitehorse, Yukon Territory was commissioned to determine access routes to the property and to mobilize a winter track-vehicle train to take an additional drill and fuel to the Rusty Springs drilling sites. This was accomplished in March of 1978 with the cooperation of the Minister of the Department of Indian and Northern Affairs and the Government of the Yukon. At the same time that the supplies were delivered, an air strip on the drilling site was constructed to be capable of receiving twin-engined fixed wing aircraft.

The 1978 exploration program has been prepared by Dr. Hodder and will be carried out under his overall direction. About 35 miles of grid is presently being measured and cut and exploration activities, including diamond drilling, will commence in early June.

Uranium Prospects

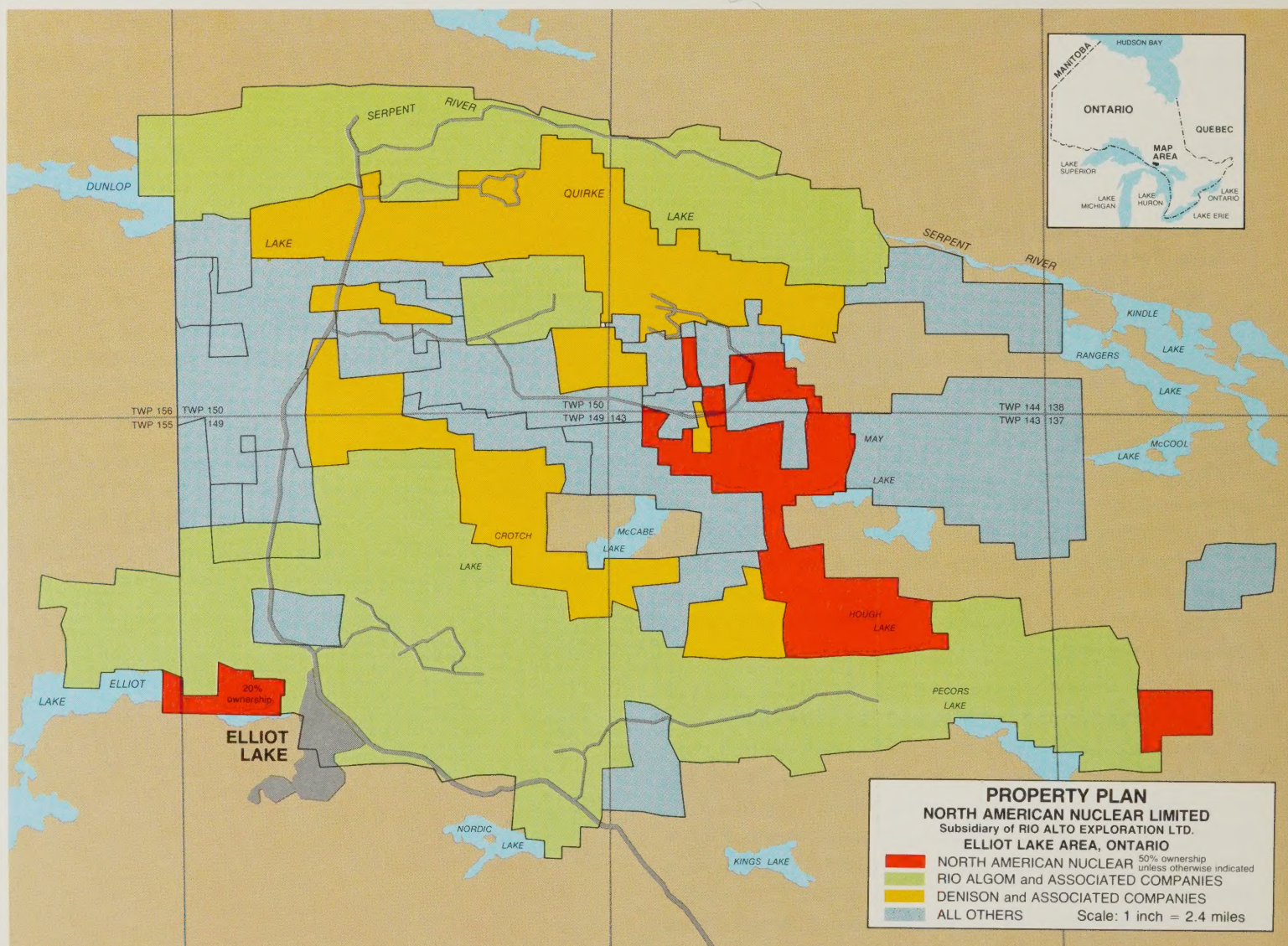
Rio Alto and its wholly owned subsidiary, North American Nuclear Limited, hold varying interests in uranium prospects in four areas of Canada and in Australia.

The most extensive of these are the holdings at Elliot Lake, Ontario where North American and Pan Ocean Oil each holds a 50% interest in 122 claims and a 20% interest in 14 other claims. A number of claims in the northern part of the area have been drilled and are being brought to lease. The claims in the southwest area of the map on this page have been optioned to Long Lac Mineral Exploration Limited. Long Lac has earned a 60% interest in these claims through an agreement which included the drilling of two or more holes. The

first two were drilled in 1977 and both encountered economic grades of uranium over mineable widths. A third hole, drilled this past winter, is reported to be similarly encouraging. More drilling is planned.

In the Quartet Lakes Area of the Yukon, Rio Alto has 84 claims which have been optioned to Marline Oil (Alberta) Ltd. for further exploration. A joint program is scheduled to begin in June, 1978.

Rio Alto's Permit #362 in the Baker Lake area of the Northwest Territories was optioned to Union Oil Company of Canada early in 1976. Since then a Federal Government freeze on further exploration on this Permit has stopped all activity. It is expected that Union Oil will continue its exploration program when restrictions are removed.





JULIO PEREZ FERNANDEZ, Prospector, on Victoria Concessions, Southeast Spain.

Our Company has a 100% interest in a 2,000 acre block in the Wollaston Lake Area of Saskatchewan. To date Rio Alto has not carried out the type of exploration program required to explain the radiometric anomaly covered by these claims. This operation is planned for the near future, considering the successes being achieved by other companies in that area.

In Australia, Rio Alto has a minority interest in Cultus Pacific N.L. The Directors of Cultus report that Cultus now has an interesting spread of technically worthwhile exploration projects to search for energy resources throughout Australia. These include an involvement in oil and gas exploration off the northwest shelf of Western Australia and uranium prospects in Western Australia, the Northern Territory and New South Wales.

Spain

An extensive exploration program on Rio Alto's 60 square mile "Victoria" mineral concession in southeast Spain has been completed with no positive results. The numerous mineral showings appear to be vein type and not conducive to large scale mining operations of the type that might be economic under present marketing conditions. Low cost, small investment operations could be recommended, however, and we are currently considering various options on this concession. Other areas of interest in Spain have been under preliminary investigation.

Petroleum and Natural Gas

Revenue from these sources continues to increase as the results of our drilling and development programs are realized. During the past year Rio Alto was a 50% participant in the drilling of two oil wells in the Kindersley area of Saskatchewan. These wells were put on production in October of 1977 and are producing well above anticipated rates. A program to drill 8 more development wells is planned for the coming summer.



Cessford Project - Relief well in foreground, large mound formed by blowout well in background.

Gamma Resources Ltd., a wholly owned subsidiary, receives revenue from its interest in 85 gas wells in the Hilda Gas Unit in the Medicine Hat area of Alberta. These interests were earned in 1976 by way of Gamma's management of the Rio Alto Drilling Fund (1976). In 1977 Gamma organized a second drilling fund which, in December, drilled a gas well near Cessford, Alberta. The well blew out of control on December 19, 1977.

Subsequently, the wellsite engineers, in consultation with Red Adair, established a well control procedure that required the drilling of a relief well through which the gas bearing formations could be plugged. This was accomplished and the wild well was brought under control on January 21, 1978. It will be some time before the amount of gas discovered in this well can be determined with reasonable accuracy but it is expected that our Company will receive revenue from gas production from this well (and possibly a second well) within the next year or two. Rio Alto has an 11.8% direct interest in the Cessford project and its accompanying acreage of $3\frac{1}{4}$ sections. During 1977 Rio Alto sold its 12% interest in the Lloydminster heavy crude project and directed these funds to the Cessford program.

Coal

A sizeable exploration program will be carried out this year on the Clearwater coal leases in which Rio Alto has royalty interests. These leases are located approximately 100 miles northwest of Calgary. In addition our Company has royalty interests in other blocks of coking coal leases in the foothills of Alberta, but Government regulations concerning production preclude any realistic indication as to when these properties may be brought into production. Rio Alto continues, however, to receive \$18,000 annually in pre-production royalties with respect to these other blocks of leases.

AUDITORS' REPORT

To the Shareholders
Rio Alto Exploration Ltd.

We have examined the consolidated balance sheet of Rio Alto Exploration Ltd. as at December 31, 1977 and the consolidated statements of income, deficit and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, subject to the realization of mining interests as outlined in note 2, these consolidated financial statements present fairly the financial position of the company as at December 31, 1977 and the results of its operations and changes in its financial position for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

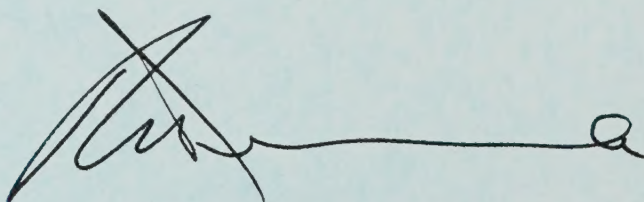
Calgary, Alberta
March 29, 1978

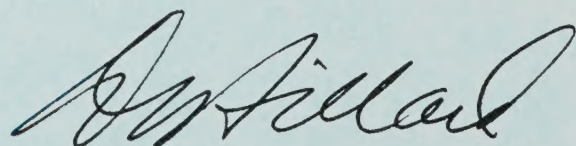
COLLINS BARROW
CHARTERED ACCOUNTANTS

CONSOLIDATED BALANCE SHEET DECEMBER 31, 1977

	1977	1976
ASSETS		
Current assets		
Cash	\$109,750	\$ 20,486
Term deposits	96,500	61,000
Due on disposal of oil and gas properties (note 2)	60,000	—
Accounts receivable	30,078	41,525
Share subscription receivable	—	10,000
Loan to an officer of the company (note 3)	2,000	—
	298,328	133,011
Investments		
Investment in shares of an incorporated joint venture, at equity (no quoted market value)	59,000	—
Investment in other shares (note 4)	21,337	20,378
	80,337	20,378
Properties and equipment (notes 1 and 5)	545,267	380,949
Other assets		
Loan to an officer of the company (note 3)	27,385	—
Drilling and exploration deposits	5,012	4,925
	32,397	4,925
	\$956,329	\$539,263

Approved on behalf of the Board,

 , Director

 , Director

The accompanying notes are an integral part of these consolidated financial statements

LIABILITIES

	<u>1977</u>	<u>1976</u>
Current liabilities		
Bank demand loans (note 6)	\$ 55,500	\$ —
Accounts payable and accrued liabilities	44,211	78,033
Funds advanced by joint venture participants	89,382	—
Income taxes payable	961	6,958
Share subscription payable	59,000	—
	<u>249,054</u>	<u>84,991</u>
Deferred income taxes (notes 1 and 7)	<u>1,319</u>	<u>—</u>

SHAREHOLDERS' EQUITY

Capital stock (note 8)		
Authorized		
3,000,000 shares of no par value		
Issued		
2,488,722 (1976 — 1,963,935) shares	791,271	537,593
Subscribed		
1976 — 20,000 shares	<u>—</u>	<u>10,000</u>
	791,271	547,593
Deficit	<u>(85,315)</u>	<u>(93,321)</u>
	<u>705,956</u>	<u>454,272</u>
	<u>\$956,329</u>	<u><u>\$539,263</u></u>

CONSOLIDATED STATEMENT OF INCOME

YEAR ENDED DECEMBER 31, 1977

	1977	1976
Income		
Oil and gas sales, net of royalties	\$177,254	\$144,859
Sale of mining properties	44,000	—
Preproduction royalties	18,000	18,000
Organization fees from limited partnership (note 9)	—	19,950
Interest, management fees and other	7,874	11,543
	247,128	194,352
Expenses		
Production	68,846	81,736
Cost of mining properties sold	43,690	—
Cost of mining projects abandoned	—	50,352
General and administrative	115,516	71,655
Depreciation	12,492	8,725
Depletion	3,050	4,700
	243,594	217,168
Income (loss) before income taxes and extraordinary items	3,534	(22,816)
Income taxes — current (recovered)	(5,791)	6,752
— deferred (recovered) (note 1)	6,804	(7,833)
	1,013	(1,081)
Income (loss) before extraordinary items	2,521	(21,735)
Income tax reduction as a result of utilization of loss carryforwards (note 7)	5,485	—
Provision for loss due to permanent decline in market value of investment (note 4)	—	(21,254)
	5,485	(21,254)
Net income (loss) for the year	\$ 8,006	\$(42,989)
Earnings per share (note 1)		
Income (loss) before extraordinary item	\$ —	\$ (0.01)
Net income (loss) for the year	\$ —	\$ (0.02)

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENT OF DEFICIT YEAR ENDED DECEMBER 31, 1977

	1977	1976
Deficit, beginning of year	\$ 93,321	\$ 50,332
Net income (loss) for the year	8,006	(42,989)
Deficit, end of year	<u>\$ 85,315</u>	<u>\$ 93,321</u>

The accompanying notes are an integral part of these consolidated financial statements

CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION YEAR ENDED DECEMBER 31, 1977

	1977	1976
Source of funds		
Current operations		
Net income (loss)	8,006	(42,989)
Add (deduct) items not involving funds		
Cost of mining properties sold	43,690	—
Cost of mining projects abandoned	—	50,352
Depreciation	12,492	8,725
Depletion	3,050	4,700
Deferred income taxes	6,804	(7,833)
Extraordinary item	(5,485)	21,254
	<u>60,551</u>	<u>77,198</u>
Funds provided by operations	68,557	34,209
Proceeds on disposal of property and equipment	142,133	4,955
Proceeds on issuance of capital stock (net)	243,678	47,500
Total source of funds	<u>454,368</u>	<u>86,664</u>
Use of funds		
Additions to investments	59,959	—
Additions to property and equipment	365,683	129,808
Loan to an officer of the company	27,385	—
Additions (reduction) in drilling and exploration deposits	87	(51)
Total use of funds	<u>453,114</u>	<u>129,757</u>
Increase (decrease) in working capital	1,254	(43,093)
Working capital, beginning of year	48,020	91,113
Working capital, end of year	<u>\$ 49,274</u>	<u>\$ 48,020</u>

The accompanying notes are an integral part of these consolidated financial statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS DECEMBER 31, 1977

1. Summary of significant accounting policies

(a) Principles of consolidation

The consolidated financial statements include the accounts of the company and all of its subsidiaries as follows:

Rio Alto Petroleum Ltd.

Rio Alto (España), S.A.

Gamma Resources Ltd.

North American Nuclear Limited

Any excess of cost of shares in the subsidiaries over the underlying net book value at dates of acquisition have been allocated to the property and equipment accounts.

(b) Oil and gas properties

The company follows the full cost method of accounting for oil and gas operations. Under this concept, all costs relating to the exploration for and development of oil and gas properties are capitalized and depleted on the unit of production method based on estimated recoverable reserves of oil and gas as determined by independent and company engineers. Proceeds on disposal of properties are normally deducted from accumulated costs without recognition of any gain or loss.

(c) Mining operations

The company follows the practice of capitalizing all acquisition and exploration costs relating to mining properties on a prospect area. If a prospect area is subsequently abandoned or sold, all capitalized costs relating to the area are charged to income. Realization of the amounts represented by property interests and deferred expenditures is dependent upon future development, since the properties represented by these assets are substantially unexplored or undeveloped.

(d) Depreciation

Depreciation of production equipment is also provided for on the unit of production method. Depreciation of sundry equipment is provided for on the declining balance method at rates of 20% and 30% per annum.

(e) Income taxes

Certain costs and expenses are recognized for income tax purposes and for financial reporting purposes in different time periods. When costs and expenses are recognized for tax purposes before being charged in the accounts, the resulting deferrals of taxation are recorded in the deferred income tax account; when costs and expenses are charged in the accounts before they can be applied in reduction of income for tax purposes, the related tax benefit is recorded when the application can be made.

(f) Earnings per share

Earnings per share is based on the weighted average number of shares outstanding during the year which for 1977 was 2,258,829 (1976 — 1,918,900). The exercising of share options would not be dilutive.

2. Due on disposal of oil and gas properties

Funds due on the disposal of oil and gas properties were held in trust at December 31, 1977 pending finalization of legal formalities. The funds were released to the company subsequent to the year end.

3. Loan to an officer of the company

During the year the company advanced to an officer of the company by way of a non-interest bearing promissory note, the sum of \$29,385 to enable the officer to purchase capital stock of the company. The note is to be repaid as follows:

July 1, 1978	\$ 2,000
July 1, 1979	2,000
July 1, 1980	25,385
	<u>\$29,385</u>

4. Investment in other shares

	1977	1976
Investment in other shares, at cost	\$42,591	\$41,632
Less: Provision for loss due to permanent decline in market value	21,254	21,254
	<u>\$21,337</u>	<u>\$20,378</u>

5. Properties and equipment

The following is a summary of properties and equipment:

	Assets At Cost	Accumulated Depreciation and Depletion	Net 1977	Net 1976
North America				
Oil and gas properties including exploration and development costs	\$ 58,138	\$ 35,113	\$ 23,025	\$ 41,370
Mineral interests including exploration costs	453,035	—	453,035	274,597
Production equipment	58,003	19,587	38,416	17,992
Sundry equipment	40,452	16,062	24,390	21,800
Europe				
Mining properties	6,401	—	6,401	25,190
	<u>\$616,029</u>	<u>\$ 70,762</u>	<u>\$545,267</u>	<u>\$380,949</u>

6. Bank demand loans

The bank demand loans are secured by an assignment of accounts receivable, oil and gas properties and revenue from oil and gas production.

7. Deferred income taxes

In years prior to 1977 the company incurred operating losses, the tax benefits of which were not recorded due to the uncertainty of future income. During the year ended December 31, 1977, the company earned sufficient income to fully utilize these loss carry forwards. The resulting income tax saving of \$5,485 has been recorded as an extraordinary item.

8. Capital stock

(a) During 1977 the company issued 524,787 additional shares for \$253,678 as follows:

	Number of shares	Amount
Exercise of employee stock options	90,000	\$ 31,500
Exercise of share purchase warrants, net of issuance costs of \$15,955	414,787	212,178
	504,787	243,678
Shares issued pursuant to 1976 subscription contract	20,000	10,000
	<u>524,787</u>	<u>\$253,678</u>

(b) At December 31, 1977, 140,000 shares of capital stock were reserved for options granted in 1976 as partial consideration for the acquisition of mining properties. The options are exercisable at prices as follows:

Exercise date	Option price per share
To September 1, 1978	\$0.75
To September 1, 1979	\$0.80
To September 1, 1980	\$0.85
To September 1, 1981	\$0.90

9. Limited partnership and contingent liability

Gamma Resources Ltd. (Gamma), a subsidiary of the company, is the sole general partner of Rio Alto Drilling Fund (1976), a limited partnership formed pursuant to the laws of the Province of Alberta, for the purpose of developing oil and gas properties. The limited partnership agreement provides that Gamma is required to pay 10% of all tangible equipment costs of all wells drilled by the partnership. Operating income, operating expenses and proceeds from the sale of properties will be prorated 90% to the limited partners, and 10% to Gamma until payout of the costs of the limited partners. After payout the proration will be 75% and 25% respectively.

Gamma has guaranteed the bank indebtedness of the limited partners in the amount of \$399,000. This bank indebtedness of the limited partners is also secured by the oil and gas properties of the limited partnership and revenue from production.

An officer and director of the company is a limited partner of Rio Alto Drilling Fund (1976) and as outlined above, Gamma has guaranteed bank indebtedness of this limited partner in the amount of \$35,000.



RIO ALTO
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